

**Montana Board of Oil and Gas Conservation  
Environmental Assessment**

**Operator:** Fidelity Exploration and Production Company  
**Well Name/Number:** Fee No. 1511  
**Location:** NE SW Section 14 T31N R35E  
**County:** Valley, **MT**; **Field (or Wildcat)** Bowdoin Dome

**Air Quality**

(possible concerns)

Long drilling time: No, 2 to 3 days drilling time.

Unusually deep drilling (high horsepower rig): No, 1800' TD, small single derrick drilling rig.

Possible H<sub>2</sub>S gas production: No, none expected.

In/near Class I air quality area: No Class I air quality area.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☒ Other: Gas gathering lines and compressors exist within the Bowdoin Gas Field.

Comments: No special concerns – using small rig to drill to 1800' TD.

**Water Quality**

(possible concerns)

Salt/oil based mud: No, freshwater and freshwater mud system.

High water table: No high water table expected.

Surface drainage leads to live water: No, closest drainage is the Milk River, about 1/2 of a mile to the west and 3/8 of a mile to the northeast from this location.

Water well contamination: No, closest water wells are about 3/8 of a mile to the northeast, southwest, southeast and all other wells are 1/2 of a mile or further in any direction from this well site. All water wells nearby are shallower than 100' in depth.

Surface hole will be drilled to 150' with freshwater and freshwater muds. Steel surface casing will be set and cemented to surface. If productive production casing will be set and cemented back to surface.

Porous/permeable soils: Yes, sandy silty soils.

Class I stream drainage: No Class I stream drainages.

Mitigation:

☐ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☐ Closed mud system

☐ Off-site disposal of solids/liquids (in approved facility)

☐ Other:

Comments: 150' of surface casing cemented to surface adequate to protect freshwater zones. Also, fresh water mud systems to be used. Production casing will be cemented to surface.

## Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: No, stream crossings anticipated.

High erosion potential: No, no cut, up to 0.0' and no fill, up to 0.0', required.

Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: No, 120'X190' location size required.

Damage to improvements: Slight, surface use is irrigated cultivated field.

Conflict with existing land use/values: Slight

Mitigation

☐ Avoid improvements (topographic tolerance)

☐ Exception location requested

☒ Stockpile topsoil

☐ Stream Crossing Permit (other agency review)

☒ Reclaim unused part of wellsite if productive

☐ Special construction methods to enhance reclamation

☒ Other Requires DEQ General Permit for Storm Water Discharge Associated with Construction Activity, under ARM 17.30.1102(28).

Comments: Access will be over existing county road. A short access off the existing county road will be built into this location. Cuttings and mud solids will be buried in the unlined drilling pits. Fluids will either be hauled to a nearby stock pond, with surface owner approval or allowed to dry in the unlined pits. Pits will be backfilled after being allowed to dry. No special concerns

## Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Yes residences are about 3/8 of a mile to the north, 1/2 of a mile to the northwest and 3/4 of a mile to the northeast from this location.

Possibility of H2S: None anticipated.

Size of rig/length of drilling time: Small drilling rig/short 2 to 3 days drilling time

Mitigation:

☒ Proper BOP equipment

☐ Topographic sound barriers

☐ H2S contingency and/or evacuation plan

☐ Special equipment/procedures requirements

☐ Other: \_\_\_\_\_

Comments: Adequate surface casing and operational BOP should mitigate any problems. No concerns.

## Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None identified.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No

Threatened or endangered Species: Listed threatened or endangered species are Pallid Sturgeon, Piping Plover, Black Footed Ferret, Interior Lease Tern and Whooping Crane. Listed species of concern is the Greater Sage Grouse.

Mitigation:

- ☐ Avoidance (topographic tolerance/exception)
- ☐ Other agency review (DFWP, federal agencies, DSL)
- ☐ Screening/fencing of pits, drillsite
- ☐ Other: \_\_\_\_\_

Comments: Well is in an irrigated field and close to a county road and should not present any conflict with these threatened /endangered species or species of concern. Also, the drilling plans indicate this well will be drilled during the Fall of 2010.

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#### **Historical/Cultural/Paleontological**

(possible concerns)

Proximity to known sites None identified

Mitigation

- ☐ avoidance (topographic tolerance, location exception)
- ☐ other agency review (SHPO, DSL, federal agencies)
- ☐ Other: \_\_\_\_\_

Comments: No concerns private irrigated surface land.

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#### **Social/Economic**

(possible concerns)

- ☐ Substantial effect on tax base
- ☐ Create demand for new governmental services
- ☐ Population increase or relocation

Comments: No concerns, development well in an existing gas field, Bowdoin Gas Field.

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#### **Remarks or Special Concerns for this site**

Well is a 1800' Mowry Formation test.

#### **Summary: Evaluation of Impacts and Cumulative effects**

No long term impacts expected. Some short term impacts will occur, but will mitigate in time.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): Steven Sasaki

(title:) Chief Field Inspector

Date: June 24, 2010

Other Persons Contacted:

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Montana Bureau of Mines and Geology, Groundwater Information Center

\_\_\_\_\_  
(Name and Agency)  
Water wells in Valley County

\_\_\_\_\_  
(subject discussed)  
June 24, 2010  
\_\_\_\_\_  
(date)

US Fish and Wildlife, Region 6 website  
(Name and Agency)  
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES  
MONTANA COUNTIES, Valley County  
(subject discussed)

June 24, 2010  
\_\_\_\_\_  
(date)

If location was inspected before permit approval:

Inspection date: \_\_\_\_\_

Inspector: \_\_\_\_\_

Others present during inspection: \_\_\_\_\_